

## CLAIMS

### WHAT IS CLAIMED:

- 5           1.     A method, comprising:
- mapping a memory region from a source device into a central device;
- mapping a memory region from a target device into the central device; and
- transferring data from the mapped memory region of the source device to the
- mapped memory region of the target device.
- 10           2.     The method of claim 1, wherein mapping the memory region of the source
- device comprises receiving at least one page frame number associated with a physical address
- range of the memory region of the source device and mapping the page frame number to a
- virtual memory location in the central device.
- 15           3.     The method of claim 2, wherein mapping the memory region of the target
- device comprises receiving at least one page frame number associated with a physical address
- range of the memory region of the target device and mapping the page frame number to a
- virtual memory location in the central device.
- 20           4.     The method of claim 1, wherein transferring the data comprises copying the
- data from the mapped memory region of the source device to the mapped memory region of
- the target device.

5. The method of claim 1, wherein mapping the memory region of the source device comprises mapping a physical address of a transfer buffer of the source device into the central device.

5 6. The method of claim 1, wherein mapping the memory region of the source device comprises mapping a physical address of a receive buffer of the target device into the central device.

10 7. The method of claim 1, wherein mapping the memory region of the source device into the central device comprises mapping the memory region of the source device into the central device in response to receiving a request from the source device to transfer data to the target device.

15 8. The method of claim 7, wherein mapping the memory region of the source device into the central device comprises mapping the memory region of the source device into the central device in response to receiving a request from the target device to receive data from the source device.

20 9. The method of claim 7, wherein receiving the request from the source device comprises polling a transmit queue of the source device that is mapped into the central device for a message that calls for transferring the data to the target domain.

10. An apparatus, comprising:  
an interface; and

a controller communicatively coupled to the interface, wherein the controller is adapted to:

receive a task through the interface to transfer data from a first client domain to a second client domain;

map a memory region of the first client domain into a central domain;

map a memory region of a second client domain into the central domain; and

transfer the data from the mapped memory region of the first client domain to the mapped memory region of the second client domain.

11. The apparatus of claim 10, wherein the memory region of the first client domain corresponds to an address range of a transmit buffer of the first client domain.

12. The apparatus of claim 10, wherein the memory region of the second client domain corresponds to an address range of a receive buffer of the second client domain.

13. The apparatus of claim 10, wherein the controller accesses a transmit queue of the first client domain to access the task to transfer the data, wherein an address range corresponding to the transmit queue is mapped into the central domain.

14. The apparatus of claim 13, wherein the controller periodically polls the transmit queue to access the task to transfer the data.

15. The apparatus of claim 13, the transmit queue having a status field associated with the task, wherein the controller updates the status field to indicate that the transfer is complete.

5 16. The apparatus of claim 15, wherein the first client domain removes the task from the transmit queue in response to updating the status field.

10 17. The apparatus of claim 10, wherein the controller stores a task in a receive queue of the second client domain in response to transferring the data to the mapped memory region of the second client domain.

15 18. The apparatus of claim 17, wherein the second client domain periodically accesses the receive queue to look for the stored task and wherein the second client domain executes the task from the receive queue in response to determining that the task is stored in the receive queue.

19. The apparatus of claim 10, wherein the controller removes the mapped memory regions in response to successfully transferring the data.

20 20. An article comprising one or more machine-readable storage media containing instructions that when executed enable a processor to:

access a transmit queue;

determine that a message is stored in the transmit queue for execution,

wherein the message comprises a source address and destination address;

map a memory region corresponding to the source address in a shared resource domain;

map a memory region corresponding to the destination address in the shared resource domain; and

transfer data between the mapped memory region of the source address and the destination address.

21. The article of claim 20, wherein the instructions when executed enable the processor to map a memory address range corresponding to the transmit queue in the shared resource domain.

22. The article of claim 21, wherein the instructions when executed enable the processor to poll the transmit queue of a first domain periodically.

23. The article of claim 22, wherein the instructions when executed enable the processor to map a memory address range corresponding to a transmit buffer of the first domain.

24. The article of claim 22, wherein the instructions when executed enable the processor to map a memory address range corresponding to a receive buffer of a second domain.

25. The article of claim 20, wherein the instructions when executed enable the processor to update a status field associated with the message in the first domain based on successfully transferring the data.

26. The article of claim 20, wherein the instructions when executed enable the processor to remove the message from the transmit queue in response to successfully transferring the data.

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27. The article of claim 20, wherein the instructions when executed enable the processor to store a message in a receive queue of a second domain, wherein an address range in the receive queue is mapped into the shared resource domain.

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28. The article of claim 20, wherein the instructions when executed enable the processor to remove the mapped memory regions in response to successfully transferring the data.